

- B<sub>1</sub>
- d. removing at least some of the calcium sulfate from the acidulated slurry;
  - e. extracting the acidulated solution with an amine extractant to form a loaded solvent; and
  - f. stripping the loaded solvent to provide a purified solution of lactic acid.
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24. (NEW) A process comprising extracting an acidulated solution containing about 12-60% weight percent lactic acid with an amine extractant to form a loaded solvent and removing lactic acid from the loaded solvent.

25. (NEW) The process of claim 24 wherein the acidulated solution is prepared by adding sulfuric acid to an aqueous solution containing calcium lactate.

B<sub>2</sub>

26. (NEW) The process of claim 25 wherein calcium sulfate is formed in preparing the acidulated solution and at least a portion of the calcium sulfate is removed before extracting the acidulated solution.

27. (NEW) The process of claim 26, wherein lactic acid is removed from the loaded solvent by back extracting the loaded solvent with an aqueous solvent.

28. (NEW) The process of claim 24 wherein the amine extractant contains sulfuric acid.

Dist C1

29. (NEW) The process of claim 24 wherein the pH of the calcium lactate solution prior to acidulation is between about 5.0 and about 9.0.

30. (NEW) The process of claim 24 wherein the pH of the calcium lactate solution prior to acidulation is less than 5.0

31. (NEW) The process of claim 26 wherein the acidulated solution contains about 20-70 weight percent lactic acid.

Dist C2

32. (NEW) The process of claim 24 wherein the calcium lactate solution is made in a fermentation process.

33. (NEW) The process of claim 32 wherein the calcium lactate solution is made by fermenting a carbohydrate in the presence of calcium carbonate or calcium hydroxide.

34. (NEW) The process of claim 24 wherein the amine extractant includes at least one tertiary amine.

35. (NEW) The process of claim 34 wherein the amine extractant includes less than 5 weight percent of a polar organic compound that increases the partition coefficient of the lactic acid.

36. (NEW) The process of claim 32 wherein mixed sugars are used as a carbon source in the fermentation process.

37. (NEW) A process comprising

- a. fermenting a carbohydrate to form an aqueous solution containing calcium lactate;
- b. concentrating the solution;
- c. adding sulfuric acid to the aqueous solution, either before or after step (b) to form a slurry of calcium sulfate in an acidulated solution containing at least 12 weight percent lactic acid;
- d. removing at least a portion of the calcium sulfate from the slurry produced in step c.;
- e. extracting the acidulated solution with an amine extractant to form a loaded solvent; and
- f. removing lactic acid from the loaded solvent.

38. (NEW) A process comprising extracting an acidulated solution containing lactic acid with a mixture of an amine extractant and sulfuric acid to form a loaded solvent and removing lactic acid from the loaded solvent.

39. (NEW) A process comprising

- a. fermenting a carbohydrate to form an aqueous solution containing calcium lactate;